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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,301	03/11/2004	James W. Thompson	083277 308344	8276

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Victor J. Castellucci
Pillsbury Winthrop LLP
Suite 200
11682 El Camino Real
San Diego, CA 92130

EXAMINER

PREVIL, DANIEL

ART UNIT	PAPER NUMBER
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2636

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/800,301

Applicant(s)

THOMPSON ET AL.

Examiner

Daniel Previl

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/29/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-12 are presented for examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Galloway (US 6,388,575).

Regarding claim 1, Galloway discloses a method of locating multiple passive electronic marker types (abstract) comprising:

Transmitting signal (col. 3, line 67; col. 4, line 1); receiving a signal from a marker (col. 4, lines 2-3); and determining a marker type based upon receiving (col. 4, lines 1-10 and lines 32-33).

Regarding claim 2, Galloway discloses the step of determining a frequency distribution of a received signal (col. 4, lines 18-25).

Regarding claim 3, Galloway discloses the step of passing the received signal through a plurality of parallel narrow-band filters (fig. 3; col. 4, lines 18-56).

Regarding claim 4, Galloway discloses the step of performing a Fourier Transform on the received signal (fig. 4; col. 4, lines 57-66).

Regarding claim 5, Galloway discloses the step of performing synchronous detection on the received signal (the shift register has a clock that can transmit the information at the same time) (col. 4, line 62; col. 5, lines 44-46).

Regarding claim 6, Galloway discloses the step of sequentially processing the received signal with in-phase and phase-shifted reference frequencies (col. 5, lines 14-27).

Regarding claim 7, Galloway discloses the step of transmitting a signal at multiple frequencies (col. 1, lines 39-42).

Regarding claim 8, Galloway discloses the step of displaying the identity of a located marker responsive to determining (provided to the operator in visual, audible or other forms) (col. 4, lines 6-9).

Regarding claim 9, Galloway discloses the step of displaying received signal strength for all marker (provided to the operator the received signal for those marker that are to be used adjacent to valves) (col. 4, lines 5-13).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galloway (US 6,388,575) in view of Alkire et al. (US 6,356,082).

Regarding claim 10, Galloway discloses method of locating multiple passive electronic marker types (abstract) comprising:

Sequentially transmitting and receiving at each of a plurality of marker type frequencies (fig. 2; col. 3, lines 61-67; col. 4, lines 1-9; col. 5, lines 24-27).

Galloway discloses all the limitations above but to specify the step of determining an amplitude value for each marker type frequency received responsive.

However, Alkire discloses the step of determining an amplitude value for each marker type frequency received responsive (col. 7, lines 27-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Alkire's amplitude value in Galloway. Doing so would modify Galloway's system with amplitude value of Alkire in order to transmit accurately the position of underground objects, thereby locating easily the buried objects for a better and quicker service wherein time and money can save as taught by Alkire (col. 1, lines 6-64).

Regarding claim 11, Galloway and Alkire disclose all the limitations in claim 10 and Alkire further discloses displaying a marker type associated with the greatest amplitude value responsive to determining (col. 7, lines 27-37). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Alkire's amplitude value in Galloway. Doing so would modify Galloway's system with amplitude value of Alkire in order to transmit accurately the position of underground objects, thereby locating easily

the buried objects for a better and quicker service wherein time and money can save as taught by Alkire (col. 1, lines 6-64).

Regarding claim 12, Galloway and Alkire disclose all the limitations in claim 10 and Alkire further discloses displaying an amplitude for each marker (col. 7, lines 27-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Alkire's amplitude value in Galloway. Doing so would modify Galloway's system with amplitude value of Alkire in order to transmit accurately the position of underground objects, thereby locating easily the buried objects for a better and quicker service wherein time and money can save as taught by Alkire (col. 1, lines 6-64).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Turner (US 5,056,454) discloses utility locator.

Eslambolchi et al. (US 5,844,405) discloses method and apparatus for locating utility conveyances in an enclosed area.

Rippingale (US 4,818,944) discloses magnetic locating and tracing system and method using dual-antenna transmitter to distinguish between concealed adjacent objects.

Parkinson et al. (US 5,430,379) discloses a conductor locator adapter for electronic markers.

Eslambolchi et al. (US 5,644,237) discloses a method and apparatus for precisely locating buried utility conveyance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Previl whose telephone number is (571) 272-2971. The examiner can normally be reached on Monday-Thursday. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel Previl
Examiner
Art Unit 2636

BRENT A. SWARTHOUT
PRIMARY EXAMINER

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